Asynchronous Processing

Asynchronous Natural processing is available under all TP monitors supported by Natural.

An asynchronous Natural session is a session which is not associated with any terminal and therefore cannot interact with a terminal user. It can be used to execute a time-consuming task "in the background" without the user having to wait for the task to finish.

The following topics are covered:

- Identifying Asynchronous Natural Sessions
- Handling Output of an Asynchronous Natural Session
- Handling Unexpected or Unwanted Input
- Other Profile Parameter Considerations

Related Topics:

- Asynchronous Natural Processing under CICS
- Asynchronous Transaction Processing under UTM

Natural Execution - Miscellaneous - Other Topics:
Double-Byte Character Sets | Input/Output Devices | Back-End Program Calling Conventions | Natural 31-Bit Mode Support | LE Subprograms | External SORT

Identifying Asynchronous Natural Sessions

To identify a session as being asynchronous, the Natural system variable *DEVICE is assigned with the value "ASYNCH".

Note:
The value of *DEVICE is modified by any SET CONTROL 'T=*xxxx*' or PC=ON specification; refer also to the description of the %T= terminal command or of the PC profile parameter. Therefore, an asynchronous Natural session should be started with PC=OFF. Moreover, *DEVICE can be set by the profile parameter TTYPE.

Handling Output of an Asynchronous Natural Session

As an asynchronous session is a session that is not associated with any terminal, this means that any output produced by the session cannot simply be displayed on the screen; instead, you have to explicitly specify an output destination. You specify this destination with the Natural profile parameter SENDER when invoking Natural. The SENDER destination applies to hardcopy output and primary reports; any additional reports are sent to the destinations specified with the DEFINE PRINTER statement, just as in a synchronous online session.

As an asynchronous session can also cause a Natural error, the destination to which any Natural error message is to be sent must also be specified; this is done with the Natural profile parameter OUTDEST. This parameter also provides an option to have error messages sent to the operator console. After an error message has been sent, Natural terminates the asynchronous session.

The profile parameters SENDER and OUTDEST should be set accordingly to be prepared for unexpected output by the asynchronous Natural session; otherwise, a session may abend in such a scenario.

Handling Unexpected or Unwanted Input

To prevent error loop situations, by default the CLEAR-key indicator is passed back to Natural on an INPUT request. To pass the ENTER-key indicator back, you can issue a SET CONTROL ’N’ statement prior to the INPUT statement.

When and how output and error messages are output depends on the TP monitor in use.

Other Profile Parameter Considerations

The following Natural profile Parameters should be considered in the case of an asynchronous Natural session:

Profile Parameter	**Comment**
AUTO	Asynchronous sessions may have non-alphabetical user IDs. In this case, AUTO=ON will fail.
MENU	Asynchronous sessions only have the Natural stack for command inputs; therefore, it is recommended to specify MENU=OFF and to navigate through Natural by using direct commands.
ENDMSG	The NAT9995 (normal termination message) can be suppressed by specifying ENDMSG=OFF.
IMSG	Natural initialization error messages and warnings can be suppressed by specifying IMSG=OFF.
PROGRAM	If a standard backend program/transaction is defined in your installation, it should be checked if this program can run asynchronously or if it is desired to deal with terminal-bound sessions only. Specifying PROGRAM=0 bypasses the backend logic.

